

REMARKS

Reconsideration of the Office action issued in connection with the above-identified patent application and dated June 7, 2004 is requested in view of the foregoing amendments and the following remarks. Prior to entry of the above amendments, claims 1-3, 5-10, 12-16, 24, 25, 33-36, 38-52 and 54-64 were pending, with claims 8, 9, 24 and 25 allowed and with claims 60, 61, 63 and 64 objected to and the remaining claims rejected. By the above amendments, claims 1, 33, 43-47, 49-52, 55-57, 63 and 64 are amended.

Beginning with allowable subject matter, the Examiner indicated that claims 60, 61, 63 and 64 would be allowable if rewritten in independent form. Claims 60, 61, 63 and 64 have been rewritten and submitted as new independent claims 65-68. Thus, new claims 65-68 should be in condition for formal allowance.

35 U.S.C. § 112 Rejections

Claims 43-52, 54-58, 63 and 64 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicants have amended claims 43-52, 54-58, 63 and 64 to more particularly point out and distinctly claim the subject matter of the invention. Specifically, claim 43 as amended recites the limitations "a lamp housing ... further including a reflector" and "a reflector shell." Support for this amendment can be found, for example, in paragraph 0014 of the specification, which recites "the lamp housing of the present invention may comprise a lamp reflector and a lamp reflector shell." Also, claims 44-49 depending

from claim 43 have been amended where necessary to be consistent with the amendments to claim 43.

Claims 50 and 51 have similarly been amended to more particularly point out and distinctly claim the subject matter of the invention.

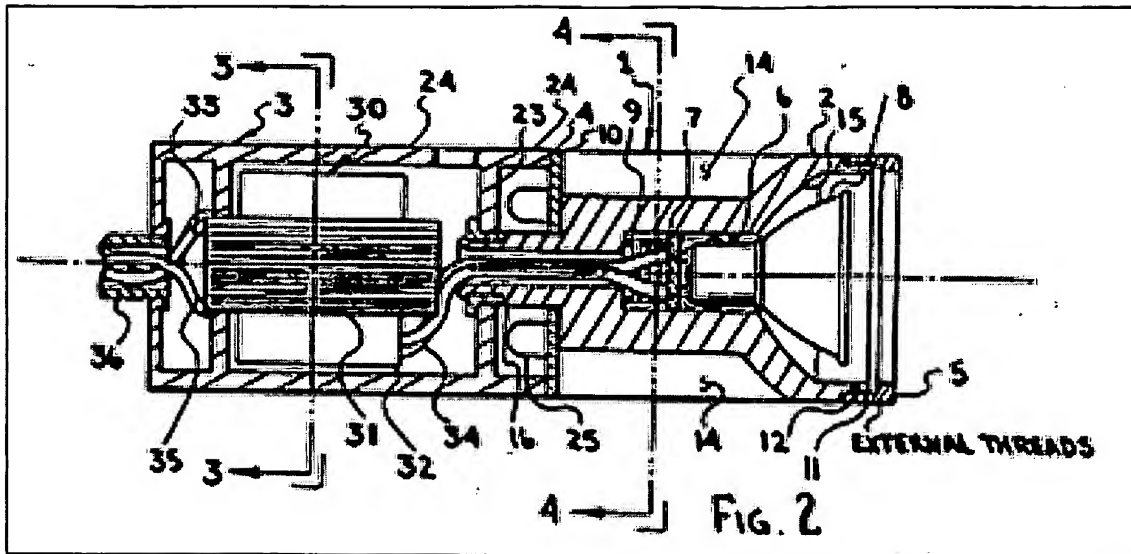
Claims 52, 55-58, 63 and 64 have been amended to more clearly recite the claimed elements. And rejected claim 54, now depends from amended claim 43 which should be definite under 35 U.S.C. § 112, second paragraph.

Rejections under 35 USC § 102

The Miller Reference

Claims 1-3, 10, 12, 14, 16, 33-36, 38, 40 and 42 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Miller (U.S. Patent No. 4,682,276). Applicants respectfully traverse.

A primary purpose for Miller is to provide a low voltage lighting fixture for incandescent bulbs, such as halogen lamps, wherein the fixture includes an integral transformer housing (col. 1, ll. 34-36). An embodiment of the Miller fixture is reproduced below for the Examiner's convenience:



As illustrated and described, Miller discloses a fixture 1 having a lamp housing 2 which is thermally isolated from a transformer housing 3 by a thermal barrier (col. 2, lines 10-12). From the above Fig. 2, a halogen lamp is positioned within lamp housing 2. The halogen lamp includes its own glass dichroic reflector as described below (see col. 1, lines 27-31):

every cooling aperture. This phenomenon is accentuated by the use of halogen lamps having glass dichroic reflectors, in which a portion of the light in the visible spectrum and most of the infrared is passed through the lamp reflector and into the fixture housing. 30

Thus, some visible light and infrared light is passed through the lamp onto the surface of Miller's lamp housing 2. The only disclosure regarding the surface of the lamp housing 2 is provided below from col. 2, lines 19-22. Please note that it is believed that the "integral concave reflector surface 14" should be indicated with reference indicator 15.

20 trim ring 5. The lamp socket 6 is integral with a plurality of heat radiating ribs 14, terminates at its distal end in an integral concave reflector surface 14, and terminates at its proximal end in an integral tubular rivet 16. The

As disclosed above, the surface is a “reflector surface”, not a surface configured to enhance absorptivity as described in the present disclosure. Specifically, there is no disclosure, teaching or suggestion in Miller of an absorbing surface, much less, a specifically altered surface to enhance the absorptivity of the passed radiation as recited in amended claim 1, reproduced in part below for convenience.

... a housing coupled to the reflector, the housing including an inner surface, contoured similarly to the reflector and extending substantially about the reflector, where the inner surface is specifically altered to enhance absorptivity of passed radiation;

Moreover, amended claim 1 recites that the lamp housing is configured to be disposed in a portable projection device. In contrast, Miller is a light fixture and does not incorporate the features necessary for inclusion in a projection device.

For at least the above reason, amended claim 1 and similarly amended claim 33, should be allowable over Miller. Claims 2, 3, 10, 12, 14, 16, 34, 35, 36, 38, 40 and 42 depend from each of the amended independent claims and should be allowable for at least the reason of dependence on an allowable base claim.

The Mendleski Reference

Claims 1-3, 7, 10, 12, 13, 16, 33-35, 38, 39, 42 and 62 stand rejected as being unpatentable under 35 U.S.C. § 102(b) over Mendleski (U.S. Patent No. 4,646,214). Mendleski discloses a coaxial lighting assembly for use with incandescent lamps (col. 1, line 54), specifically halogen lamps (col. 1, ll. 1-23). Mendleski’s lighting assembly is selectively configurable such that the various parts may be interchanged to “allow a lighting designer to customize the light instrument for particular tasks and to create novel and unusual artistic lighting displays.”

Amended claim 1 recites “a housing coupled to the reflector, the housing

including an inner surface, contoured similarly to the reflector and extending substantially about the reflector, where the inner surface is specifically altered to enhance absorptivity of passed radiation.” Claim 33 has been similarly amended. There is no disclosure in Mendleski of specially preparing (or altering) the inner surface which extends substantially about the reflector to enhance absorptivity of the passed radiation.

The Examiner indicates the following disclosure (col. 4, lines 63-68) within Mendleski provides the relevant disclosure:

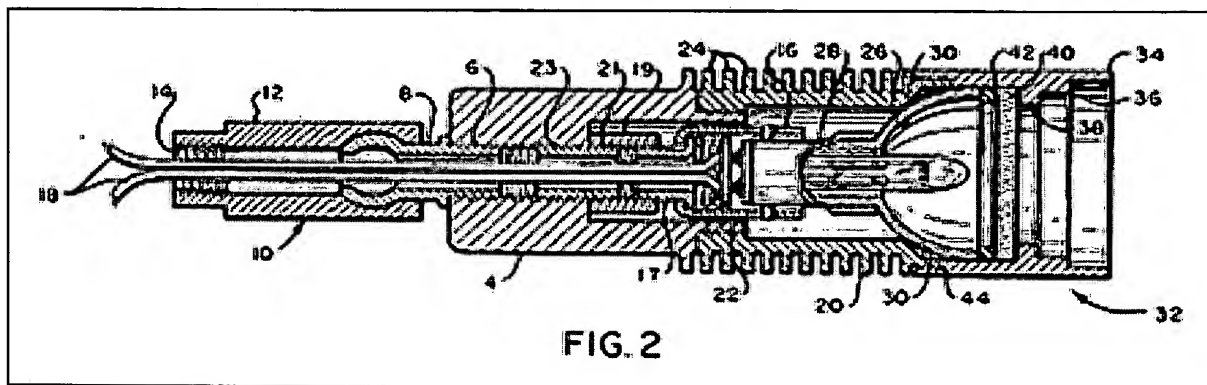
In the preferred embodiment of the present invention, all of the body parts are machined from T6061 aluminum alloy, and are finished by anodizing. However other metals such as brass, or plastic material having suitable properties may be substituted, subject to thermal analysis.

However, Mendleski does not specifically discuss the “altering” of the inner surface of the housing to have “an enhanced absorptivity surface.” Instead, the above Mendleski disclosure, simply discloses all portions of the lighting instrument as being an anodized aluminum alloy or other specified material. There is no disclosure, teaching or suggestion of specifically modifying the surface which extends substantially around the reflector to increase absorptivity of radiation at that select locale.

It is appreciated that Mendleski describes the use of a reflector-lamp as a “dichroic mirror which reflects visible light while remaining relatively transparent to heat radiation” (col. 5, lines 3-6). However, the reflective lamp is positioned within the mid-section 20 and barrel assembly 32 of the lighting fixture. There is no disclosure of the surface of the mid-section or barrel assembly 32 being prepared to enhance absorptivity. It is noted that Mendleski discloses an internal stepped flare configuration

extending in front of the reflector which includes steps "to minimize secondary reflections and unwanted light dispersion." (col. 4, lines 3-8). The steps do not appear to extend into the surface substantially around the reflector. Thus, in contrast to the recitation in applicant's claim, Mendelski does not provide altered surface features or other surface treatments that increase the absorptivity of the inner surface extending substantially about the reflector.

Moreover, Mendelski does not disclose formations that are contoured similarly to the reflector outer surface. Instead, Mendleski discloses a mid-section body which is tubular. Fig. 2 is reproduced below for the Examiner's reference.



As can be seen in Fig. 2 of Mendleski, the reflector 26 abuts an annular inner flange 30, but the cylindrical wall of the inner surface then extends back and away from the reflector 26 for some distance, at which point a cylindrical wall of smaller diameter extends further back, before terminating at the midpoint of base body 4. The inner surface of the Mendleski device is neither similarly contoured to, nor configured to substantially correspond to, the reflector in size, shape, or any other characteristic. Moreover, the interchangeable sections do not lend themselves to having a portion that is similarly contoured to the reflector. In addition, Mendleski does not provide formations which follow the contour of the reflector. Further, Mendleski does not

provide formations which extend from a first opening to a fitting, as recited in amended claim 33,

For at least the above reasons, the rejection to claims 1 and 33 under 102(b) as being anticipated by Mendleski should be withdrawn. Moreover, claims 2, 3, 7, 10, 12, 13, 16, 34, 35, 38, 39, 42, 62 which depend from claim 1 and 33 should be allowable as depending from an allowable base claim.

The Kapilow Reference

Claims 43-48, 52, 55, 56 and 58 stand rejected as being unpatentable under 35 U.S.C. § 102(b) over Kapilow (U.S. Patent No. 3,492,069). Kapilow discloses a slide projector provided with baffles to ventilate a light source disposed within the projector.

Independent claim 43, as amended, distinguishes Kapilow, because Kapilow fails to teach, disclose or suggest at least one limitation recited in independent claim 43.

For example, amended claim 43 recites a projection lamp system with “a reflector to reflect visible light and to selectively pass radiation emitted from a light source disposed within the reflector.” Kapilow fails to disclose a reflector that selectively passes radiation, while reflecting visible light. Instead the reflector “consists of a reflective coating 30 on the outer surface of the projector lamp 12.” (col. 4, lines 10-15.). The reflector operates to reflect the image of the filament off the coating, thus superimposing the image and effectively doubling the light intensity of the optical system. There is no disclosure of a reflector configured to selectively pass radiation.

Moreover, Kapilow fails to disclose “a reflector shell coupled to the reflector.” Moreover, Kapilow fails to disclose formations which extend from a first end to a second end of the reflector.

Instead, Fig. 2 of Kapilow shows a bulb 12 spaced away from a shallow concave reflector 29. However, the bulb 12 cannot be said to be "disposed substantially within" reflector 29 in any conventional use of the word "within," since no part of the light source is indicated to be inside, or situated in the inner part of, the reflector. Moreover, Kapilow does not disclose formations on the outer surface of a reflector shell, much less formation which extend from a first end to a second end of a reflector.

For at least the reasons above, applicants respectfully request the withdrawal of the rejection of claim 43 under 35 U.S.C. § 102(b) in view of Kapilow. Claims 44-48, 52, 55, 56 and 58 depend from and further limit claim 43, and thus should be allowed when amended claim 43 is allowed.

Rejections under 35 USC § 103

Dependent claim 7 stands rejected as being unpatentable under 35 U.S.C. § 103(a) over Miller in view of Rudolph (U.S. Patent No. 3,586,851). Rudolph discloses a black anodized screen in col. 5 (lines 15-25):

densing lens 176. Surrounding the reflectors 178 and 186 is a
black anodized aluminum screen 192. This screen 192 absorbs
much of the radiant energy in the infrared light rays and
becomes warm. There is a case 194 for the light source and
the screen 192 and which case has a bottom wall 196, side
walls 198 and top walls 200. In the top wall 200 there is an
outlet 204. Connecting with this outlet 204 is a suction fan
206. It is seen that a black anodized screen 192 absorbs the in-
frared light rays and becomes warm. The fan 206 draws air
through the housing 194 and which air circulates around the
screen 192 and conducts away heat from the screen. Also,

The black anodized screen of Rudolph is spaced apart from the reflectors and is positioned so that air may circulate through the screen and system, thus cooling the system.

As described above, in regards to Miller, the surface that appears to face the lamp is described as an "integral concave reflector surface." Miller fails to teach or disclose anything other than a "reflecting surface" as the integral internal surface. Rudolph's ventilated black anodized screen would not operate as a "reflecting surface" as described by Miller. The "reflecting surface" language teaches away from the use of the black anodized screen of Rudolph. Thus, applicants respectfully request the withdrawal of the rejection of Miller in view of Rudolph.

Additionally, it is noted that the Miller device is designed for use with incandescent bulbs, such as halogen lamps (col. 1, ll. 9-17). In contrast, the present application is directed towards lamp housings for managing light and radiation generated by high intensity discharge ("HID") lamps. HID lamps, such as metal halide lamps, are quite different from halogen lamps in structure, operation, electrical requirements, output, and so forth. For example, as described in applicant's Background (paragraphs 0003 and 004):

... However, the HID lamp generates such an intense amount of light and radiation that a reflector alone cannot address all of the safety and operational concerns associated with using an HID lamp in a multimedia projector. For example, the HID lamp is prone to explosion under certain conditions. Moreover, during operation light and radiation may get into areas of the projector where it can be harmful, damaging sensitive electronic and optical components or melting the surrounding plastic components. As is often the case, stray visible light may escape from the projector altogether and reduce the visibility of the projected image. The radiation and resulting heat generated by the light source also presents a secondary problem of noise generated by the fans used to cool the lamp, lamp reflector, and surrounding parts of the projector.

Several different types of reflectors have been designed in an effort to overcome some of these safety and operational concerns. For example, cold mirror glass reflectors reflect most of the visible light forward, but allow the ultraviolet (UV) and infrared (IR) radiation to pass through. But glass reflectors may not adequately contain an HID lamp explosion. Moreover, the UV and IR radiation passing through the reflector can be particularly harmful when striking other parts of the projector causing them to overheat, sometimes to the point of melting. Heat sinks have been used to conduct heat from the walls of the reflector to the exterior of the projector or to the circulating air within, but prior art heat sinks are typically unsuited for use in a multimedia projection system as they may be too large or too heavy or otherwise interfere with the operation of the projector.

The Miller reference is limited to teaching a lighting fixture specifically for use with halogen lamps. The lighting fixture configuration provided for in Miller does not address the concerns of explosion, size, etc. which are present with HID lamps and portable projection devices.

Dependent claims 13, 15, 39 and 41 stand rejected as being unpatentable under 35 U.S.C. § 103(a) over Miller in view of Mendleski. The Office action asserts that Mendleski teaches a plurality of formations defining parallel plates disposed latitudinally across the outer surface of a housing.

Applicants note that, like the Miller reference, the Mendleski reference's discussion is limited to halogen lamps and lighting fixtures. Neither the Miller configuration, nor the Mendleski configuration, address the concerns of HID light explosion and size restraints which are fundamental as to the applicant's projection device lamp housing configuration. Moreover (as described above), neither Mendleski nor Miller disclose a housing coupled to the reflector, the housing including an inner surface, contoured similarly to the reflector and extending substantially about the reflector, where the inner surface is specifically altered to enhance absorptivity of passed radiation. Applicants thus request the withdrawal of the rejections under this combination.

Finally, independent claim 43 and dependent claims 5, 6, 44-49 and 54-59 stand rejected as being unpatentable under 35 U.S.C. § 103(a) over Mendleski in view of Kapilow. The Office action asserts that Kapilow teaches a variety of features which, when combined with the Mendleski disclosure, render obvious the aforementioned claims. However, as described above, Kapilow discloses a slide projector with baffles

to ventilate a light source. Mendleski provides an interchangeable lighting assembly for a wide variety of fixtures. The combination of Kapilow and Mendleski do not provide applicants claimed projection lamp housing where the reflector shell is contoured similarly to the reflector and includes an altered inner surface for enhanced absorption of passed radiation.

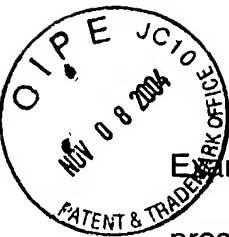
Moreover, amended claim 1 recites that the formations are “generally contoured similar to the reflector outer surface.” Claim 43 recites the formations extend from a first end to a second end. The shape and position of the formations enable the size of the applicant’s lamp housing to be minimized. Neither Mendleski or Kapilow teach, suggest or disclose such a configuration for the formations, and thus, applicants respectfully requests withdrawal of the rejections of under 35 U.S.C. § 103(a) over Mendleski in view of Kapilow.

Amendments to the claims

Applicants believe that all claim amendments any new claims (claims 65-69) are supported in the specification and the drawings and that no new matter has been added. For example, support is found for the amendments in paragraphs [0019] – [0024]. Additional support is found throughout the specification and the drawings.

Conclusion

Applicants believe that this application is now in condition for allowance, in view of the above amendments and remarks. Accordingly, applicants respectfully request that the Examiner issue a Notice of Allowance covering the pending claims. If the



Examiner has any questions, or if a telephone interview would in any way advance prosecution of the application, please contact the undersigned attorney of record.

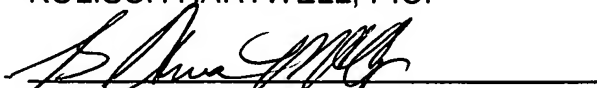
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Lisa Holstein

Respectfully submitted,

KOLISCH HARTWELL, P.C.


B. Anna McCoy
Registration No. 46,077
Customer No. 23581
Attorney for Applicant(s)
520 S.W. Yamhill Street, Suite 200
Portland, Oregon 97204
Telephone: (503) 224-6655
Facsimile: (503) 295-6679